# The problems when classes aren't properly encapsulated

Allowing direct access to data on an object, can bypass checks and operations.

It encourages an interdependency, or coupling, between the calling code and the class.

For the previous example, we showed that changing a field name, broke the calling code.

And we also showed, that the calling code had to take on the responsibility, for properly initializing a new Player.

# Benefits of Encapsulation

That's really one of the huge benefits of encapsulation, is that you're not actually affecting any other code.

It's sort of like a black box in many ways.

But the EnhancedPlayer class has more control over it's data.

# Staying in Control

This is why we want to use encapsulation.

We protect the members of the class, and some methods, from external access.

This prevents calling code from bypassing the rules and constraints, we've built into the class.

When we create a new instance, it's initialized with valid data.

But likewise, we're also making sure that there's no direct access to the fields.

That's why you want to always use encapsulation.

It's something that you should really get used to.

# Encapsulation Principles

To create an encapsulated class, you want to:

• Create constructors for object initialization, which enforces that only objects with valid data will get created.

• Use the private access modifier for your fields.

• Use setter and getter methods sparingly, and only as needed.

• Use access modifiers that aren't private, only for the methods that the calling code needs to use.